

Work Order ID 94591

December-19-12 1:02:24 PM

94591

Page 1

Item ID: D3224-1

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Frame

Stop

NS2

Start Date: 12/19/12 Start Qty: 4.00

4

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: R

Date: 12-01-2

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3224	Rev B								
100		0.00							
100	FLOW WATER JET								
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3224								
2024-063	Dwg Rev: <u>B</u>								
	Prog Rev: <u>B</u>								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110	Memo	0.00							
QC									
Quality Control									

4 0 JM13-2-8

JM13-2-8

JM13-2-8

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part No. _____		Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Machining <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____		Use-as-is <input type="checkbox"/>	Work Order Update <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear			General							
Bending	<input type="checkbox"/>	General	Bend	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Ovalized	<input type="checkbox"/>	Pressure/Forced	
Centre Not Concentric to O/S	<input type="checkbox"/>		BOM/Route	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Temperature/Cure	
Cracks	<input type="checkbox"/>		Broken/Damaged	<input type="checkbox"/>	Inspection Incomplete	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>	Weld	
Crushed/Crimped.	<input type="checkbox"/>		Burrs	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>	Wrong Stock Pulled	
Cuffs	<input type="checkbox"/>		Contamination	<input type="checkbox"/>	Maintenance	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>		
Heat Treat	<input type="checkbox"/>		Countersink	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>		
Inspection Strip in Tube	<input type="checkbox"/>		Cut Too Short	<input type="checkbox"/>	Misread	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>		
Ripples in Bend	<input type="checkbox"/>		Drill Holes	<input type="checkbox"/>	Offset	<input type="checkbox"/>		<input type="checkbox"/>	Other	
Torque Waves in Extrusion	<input type="checkbox"/>		Drawing	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>		<input type="checkbox"/>		
Turning Sequence	<input type="checkbox"/>		Finish	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>		<input type="checkbox"/>		
Wave/Twist in Tube	<input type="checkbox"/>		Folio	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>		<input type="checkbox"/>		

NCR: Yes / No

DQA: Date: 1

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish Folio		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset Out of Calibration Out of Sequence Outside Dimensions		Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	

Work Order ID 94591***94591***

Page 3

December-19-12 1:02:24 PM

Item ID: D3224-1

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Frame

Stop

NS2

Start Date: 12/19/12 Start Qty: 4.00

4

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

150

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

DAS

15

0.00

B211

4

160

160

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

W 13.2.13

170

170

QC

Quality Control

QC7-Inspect Chemical Conversion Coat

0.00

DAS

15

0.00

B2B

4

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date: 4

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspector Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions							
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge							
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled							
				<input type="checkbox"/> Other							

December-19-12 1:02:24 PM

Item ID: D3224-1

Accept

N900040100

Setup Start

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Revision ID:

Item Name: Frame

Stop

NS2

Start Date: 12/19/12 Start Qty: 4.00

4

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
						Stop	*NR2*
	QC:	Date:	SPC (Y/N):	Date:			

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180 Identify as per dwg & Stock Location: ST218 0.00

180

Packaging

Packaging

Memo

190 QC21- Final Inspection - Work Order Release 0.00

190

QC

Quality Control

Memo

13/2/14

MF

13-2-15

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS											
Part No. _____	Work Order: _____	Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>									
NCR No. _____	Part No. _____	NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>									
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>									
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>										
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector						
Doc/Data																
Equip/Tooling																
Operator																
Material																
Setup																
Other																
Process																
Supplier																
Training																
Unapproved																
FAULT CATEGORY																
Landing Gear				General												
Bending	<input type="checkbox"/>			Bend	<input type="checkbox"/>			Grain	<input type="checkbox"/>			Ovalized	<input type="checkbox"/>			Pressure/Forced
Centre Not Concentric to O/S	<input type="checkbox"/>			BOM/Route	<input type="checkbox"/>			Hardware	<input type="checkbox"/>			Over/Under tolerance	<input type="checkbox"/>			Temperature/Cure
Cracks	<input type="checkbox"/>			Broken/Damaged	<input type="checkbox"/>			Inspection Incomplete	<input type="checkbox"/>			Part Incorrect	<input type="checkbox"/>			Weld
Crushed/Crimped.	<input type="checkbox"/>			Burrs	<input type="checkbox"/>			Instructions Incomplete/Unclear	<input type="checkbox"/>			Part Lost/Missing	<input type="checkbox"/>			Wrong Stock Pulled
Cuffs	<input type="checkbox"/>			Contamination	<input type="checkbox"/>			Maintenance	<input type="checkbox"/>			Part Moved	<input type="checkbox"/>			
Heat Treat	<input type="checkbox"/>			Countersink	<input type="checkbox"/>			Mislabeled	<input type="checkbox"/>			Positioned Wrong	<input type="checkbox"/>			
Inspection Strip in Tube	<input type="checkbox"/>			Cut Too Short	<input type="checkbox"/>			Misread	<input type="checkbox"/>			Power Loss/Surge	<input type="checkbox"/>			
Ripples in Bend	<input type="checkbox"/>			Drill Holes	<input type="checkbox"/>			Offset	<input type="checkbox"/>				<input type="checkbox"/>			
Torque Waves in Extrusion	<input type="checkbox"/>			Drawing	<input type="checkbox"/>			Out of Calibration	<input type="checkbox"/>				<input type="checkbox"/>			
Turning Sequence	<input type="checkbox"/>			Finish	<input type="checkbox"/>			Out of Sequence	<input type="checkbox"/>				<input type="checkbox"/>			
Wave/Twist in Tube	<input type="checkbox"/>			Folio	<input type="checkbox"/>			Outside Dimensions	<input type="checkbox"/>				<input type="checkbox"/>			
											<input type="checkbox"/>				Other	

Picklist Print

December-19-12 1:02:23 PM

Page 1

Work Order ID: 94591

Parent Item: D3224-1

Parent Item Name: Frame

Start Date: 12/19/12

Required Date: 1/11/13

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 05-11-06 JLM
IPP: B 06.11.15 waterjet EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063 2024-T3 .063 sheet		Purchased	No			100	sf	233.8400	5.2	21.894737 22			JmB-2-8

Location	Loc Qty	Loc Code
MAT022	233.84	
119916	0.2	
121197	21.34	
123654	27.8	
123701	184.5	123701

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>								
Root Cause Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved		Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector		
FAULT CATECORY														
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio				<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	

DART AEROSPACE LTD	Work Order:	94391
Description: Frame	Part Number:	D3224-1
Inspection Dwg: D3224 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Measured by:	Jm	Audited by:	SMP	Preliminary Approval:	
Date:	13-2-8	Date:	13-2-8	Date:	

Rev	Date	Change	Revised by	Approved
A	04.10.05	New Issue P/O D412-709-011	KJ/JLM	
B	11.03.08	Dimensions updated per Dwg Rev B	KJ	

8

7

6

5

4

3

2

1

D

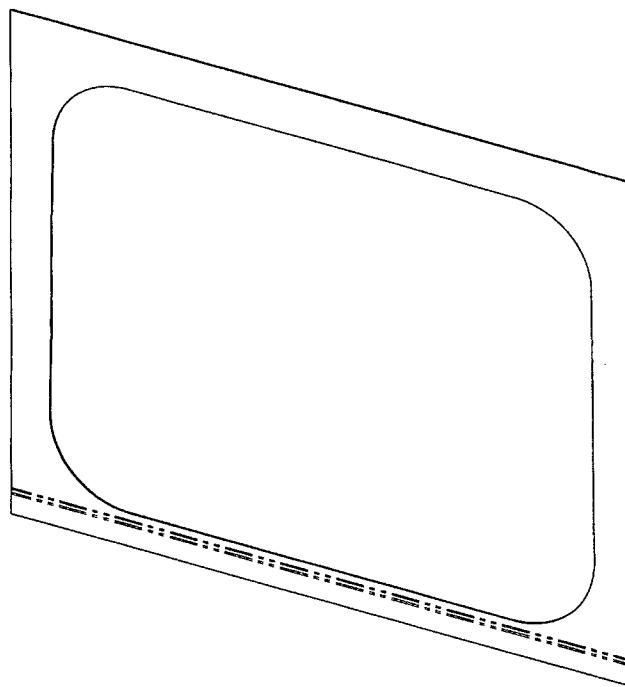
D

C

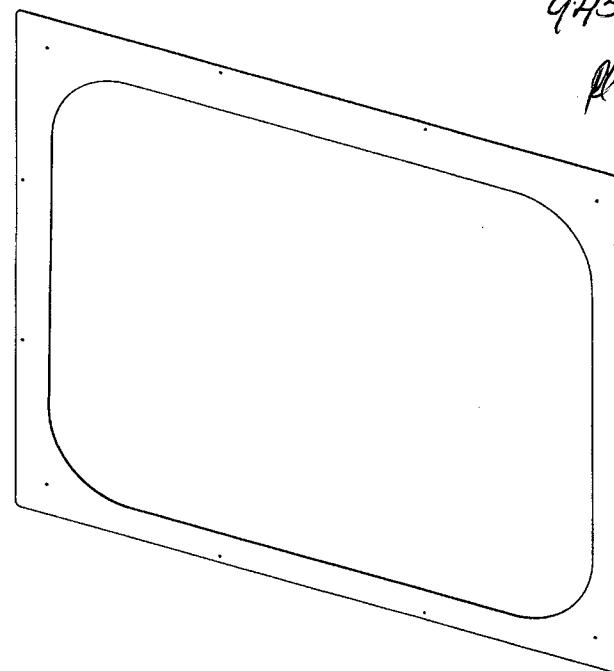
C

B

B



D3224-1 FRAME



D3224-3 FRAME

94591
013-01-2

RELEASED
09/05/13

NOTES:

- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK PER AMS-QQ-A-250/4 OR AMS 4037
REF. DART SPEC. M2024T3S.063
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3224-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT:
D3224-1 = 1.40 lbs
D3224-3 = 1.22 lbs

8

7

6

5

4

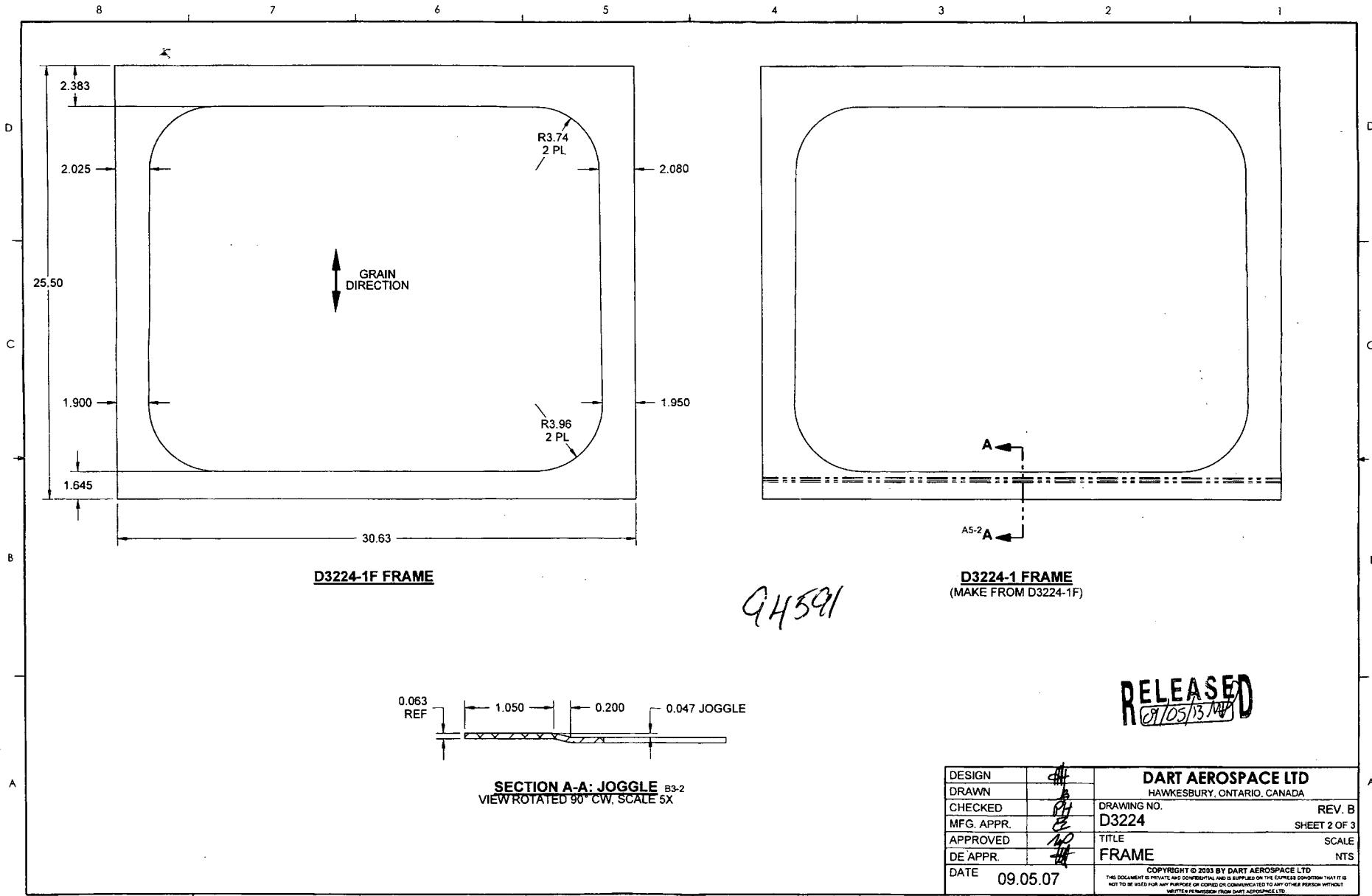
3

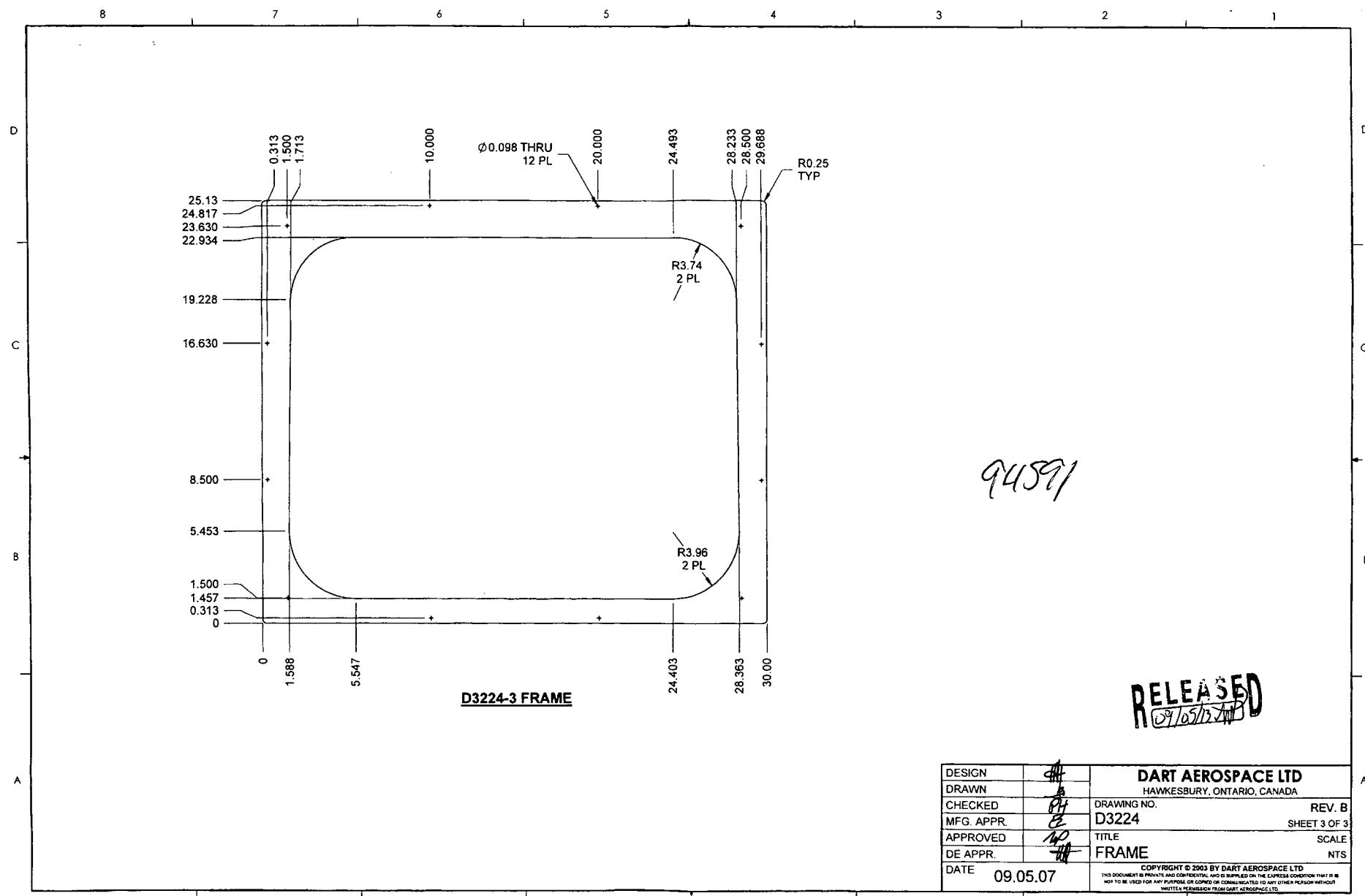
2

1

B	REDRAWN TO CURRENT DRAWING STANDARDS; ADDED D3224-1F AND D3224-3. REASON: SEE NCR#09-054.	MB	09.05.07
A	NEW ISSUE	RF	03.10.21
REV.	DESCRIPTION		
DESIGN	<i>PH</i>	DART AEROSPACE LTD	
DRAWN	<i>PH</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>PH</i>	DRAWING NO.	
MFG. APPR.	<i>PH</i>	D3224	REV. B
APPROVED	<i>PH</i>	SHEET 1 OF 3	
DE APPR.	<i>PH</i>	TITLE	SCALE
		FRAME	NTS
DATE	09.05.07		

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9459

RELEASED
09/05/13 A

DESIGN	11	DART AEROSPACE LTD		
DRAWN	13	HAWKESBURY, ONTARIO, CANADA		
CHECKED	PH	DRAWING NO.	REV. B	
MFG. APPR.	CE	D3224	SHEET 3 OF 3	
APPROVED	AD	TITLE	SCALE	
DE APPR.	AD	FRAME	NTS	
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